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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,537	10/23/2001	Curtis D. Mowry	SD6790/S96443	4708
20567	7590	10/04/2004		
SANDIA CORPORATION P O BOX 5800 MS-0161 ALBUQUERQUE, NM 87185-0161			EXAMINER CROSS, LATOYA I	
			ART UNIT 1743	PAPER NUMBER

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/035,537

Applicant(s)

MOWRY ET AL.

Examiner

LaToya I. Cross

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-20 and 35-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-15, 20 and 35-38 is/are rejected.
- 7) ☒ Claim(s) 16-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 20, 2004 has been entered.

Withdrawal of Rejections from Previous Office Action

- The anticipatory rejection over Behar et al is withdrawn in view of Applicants' amendment to recite that the substrate is a semiconductor or dielectric substrate.
- The anticipatory rejection over Morgan et al is withdrawn in view of Applicants' declaration under 37 CFR 1.132 stating that the relevant portions of the Morgan et al reference were invented by the current inventors and were not invented by the additional authors of the article.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 7-15, 20 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Behar et al in view of journal article "Microfabrication of membrane-based devices by HARSE and combined HARSE/wet etching" by Manginell et al.

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Behar et al disclose a micropyrolyzer for the pyrolysis of solid or liquid samples taken in small amounts. The device comprises a tubular oven (1) having a wall inside of which defines a heating zone (3), which has attached to it a heating means (4). The heating means is a resistive heating means (col. 2, lines 63-66). The surface that the sample is heated on is preferably made of gold. A small sample is introduced into sample rod (9) and inserted into the oven. At col. 4, lines 45-50, Behar et al disclose using 25-200 micrograms of sample. Once in the heating position, the oven is heated to a temperature of 550°C. After pyrolysis, heating is stopped. A reagent, such as pentane or chloroform, is added. The vaporized products are removed from the trap and analyzed by a gas phase chromatography apparatus, which may be connected to the oven output. See col. 4, lines 45-50, lines 55-68 and col. 5, lines 44-51. As a sample, Behar et al disclose hydrocarbons and oils (col. 1, lines 16-30; col. 5, lines 44-48).

Behar et al differ from the instantly claimed invention in that there is no disclosure of a micropyrolyzer having a semiconductor or dielectric substrate, with a membrane having a resistive heating element.

Manginell et al teach micro-hotplates made of thin dielectric membranes having resistive heaters fabricated thereon. Specifically, the micro-hotplates of Manginell et al are comprised of a silicon substrate coated with a silicon nitride membrane. The resistive heaters disposed on the membrane are Ti/Pt heaters. See page 2. In testing the performance of the micro-hotplate, Manginell et al found that the device heated to 200°C in less than 8msec, requiring only 54mW of applied power (page 4). Manginell et al teaches that the micro-hotplates find use in many sensing applications, including gas sensing. The devices are also advantageous due to their low heat capacity and thermal conductivity of the membrane.

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It would have been obvious to one of ordinary skill in the art to perform the method of Behar et al using the micropyrolyzer device of Manginell et al due to the fast heating rate and the small amount of power required.

Allowable Subject Matter

5. Claims 16-19 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to teach or fairly suggest a method for vaporizing a sample for analysis, as claimed, wherein the sample comprises a fatty acid and the reagent added is a methylation reagent.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 571-272-1256. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Jill Warden
Supervisory Patent Examiner
Technology Center 1700